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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,895	08/07/2001	Sanil Kumar Puthiyandyil	01-592	2243

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EXAMINER

SALAD, ABDULLAHI ELMI

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,895

Applicant(s)

PUTHIYANDYIL ET AL.

Examiner

Salad E Abdullahi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment.

1. The amendment filed on 2/7/2005 has been received and made of record.
2. Applicant's arguments with respect to claims 1-20 has been considered but are not persuasive in view of in view of new grounds of rejection.

In response to applicant's argument "Sun et al., does not teach or suggest a message sent to a contact LNS, where the message indicates the availability of an LAC for participating in load balancing", Applicant's Admitted Prior Art (APA) discloses a communications mechanism where a control messages are exchanged between LNS and LAC. The control messages include Start-Control-Connection-Request (SCCRQ) message which is used by the LAC to initialize the channel between LAC and the LNS (see page 4, lines 11-20). Furthermore, APA discloses initially LAC uses SCCRQ messages to initialize the channel between the LAC and LNS, thus one skilled in the art would readily recognized such control messages from the LAC include LAC's willingness to participate in the load balancing.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being obvious over SUN et al., U.S. Patent No. 6,704,282[hereinafter Sun], in view of Applicant's Admitted Prior Art [hereinafter APA].

5. The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

As per claim 1, Sun discloses system for load balancing, the system comprising:
a LAC (i.e., Access Concentrator 4), the LAC including a contact LNS (i.e., Network Server 22) address, the contact LNS address specifying the address of a contact LNS

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(see col. 6, lines 59-67);

a contact LNS (i.e., LBS 24) communicatively coupled to the LAC (i.e., AC) (see fig. 1, element 4 and 26);

a plurality of load balancing LNS (i.e., NS 26 to NS 30) communicatively coupled to the contact LNS(i.e., LBS 24) and to the LAC (i.e., AC) (see col. 5, lines 53-67); and
and the contact LNS sends a response message containing IP address of a selected one of the plurality of load balancing LNSS to which the LAC should establish a session (see fig. 9 and col. 7, lines 26-38).

Sun is silent regarding: wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing.

APA discloses a communications mechanism where a control messages are exchanged between LNS and LAC, wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing (i.e., sending control messages such as Start-Control-Connection-Request (SCCRQ) message which indicate the LAC is available for load balancing to the contact LNS) (see page 4, lines 11-20). Sun discloses initially, when a request is received by the LAC (AC 4), then VPN channel is initiated from the LAC. Thus, one skilled in the art would have readily recognized by initially starting the communication channel LAC using such control messages informs the LNS of its availability for participating in load balancing. Therefore, it would have been obvious to one having ordinary skill in the art at the time of then invention presented with of SUN to utilize the

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control messages such as (SCCRQ) by the LAC to inform the LNS its availability for participating in load balancing, to ensure the LAC is ready to participate the load balancing, thus minimizing delay related sending request for LAC which is over loaded or taken out of service.

As per claim 2, Sun discloses the system of claim 1 wherein the contact LNS is included within a virtual LNS (see fig.1, element 22).

As per claim 3, APA discloses the system of claim 1 wherein the message informing the contact LNS of the availability of the LAC for participating in load balancing is an ICRQ message (see page 4, lines 11-20).

As per claim 4, APA discloses the system of claim 1 wherein the response message is a ICRP message (see page 4, lines 11-20).

As per claim 5, Sun discloses the system of claim 1 further including a customer premise equipment (CPE) (i.e., user device 8) coupled to the LAC (i.e., AC1)(see fig.1, elements 8 and 4).

As per claim 6, Sun discloses a method of load balancing, the method comprising:
obtaining the address of a contact LNS (see col. 3, lines 20-29);
receiving from the contact LNS the address of the next available LNS(see col. 3, lines 20-29 and col. 6, lines 59-67);

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establishing a connection with the next available LNS (see col. 3, lines 20-29);and receiving data and forwarding the data to the next available LNS (see col. 3, lines 38-45).

Sun is silent regarding: wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing

APA discloses a communications mechanism where a control messages are exchanged between LNS and LAC, wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing (i.e., sending control messages such as Start-Control-Connection-Request (SCCRQ) message which indicate the LAC is available for load balancing to the contact LNS) (see page 4, lines 11-20). Sun discloses initially, when a request is received by the LAC (AC 4), then VPN channel is initiated from the LAC. Thus, one skilled in the art would have readily recognized by initially starting the communication channel LAC using such control messages informs the LNS of its availability for participating in load balancing. Therefore, it would have been obvious to one having ordinary skill in the art at the time of then invention presented with of SUN to utilize the control messages such as (SCCRQ) by the LAC to inform the LNS its availability for participating in load balancing, to ensure the LAC is ready to participate the load balancing, thus minimizing delay related sending request for LAC which is over loaded or taken out of service.

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As per claim, 7 APA discloses the method of claim 6 wherein the message that indicates the LAC is available for participating in load balancing is an ICRQ message (see page 4, lines 11-20).

As per claim 8, Sun discloses the method of claim 7 wherein the address of the next available LNS is included in an ICRP message (i.e., ICRP message) (see col. 6, line 59 to col. 7, line 9).

As per claim 9, Sun discloses the method of claim 7 wherein the contact LNS is included in virtual LNS (see col. 3, lines 4-11).

As per claim 10, Sun discloses a method for load balancing between a contact L2TP Network Server (LNS), an L2TP Access Concentrator (LAC), and a next LNS, the method comprising;

determining whether the contact LNS can provide a session (see col. 3, lines 13-18);

sending a message to the LAC indicating whether the LNS can provide the session (see col. 7, lines 1-9);

if the contact LNS can provide the session, then establishing a connection between the contact LNS and the LAC (see col. 3, lines 13-29); and

if the contact LNS cannot provide the session, obtaining the next LNS address and providing the next LNS address to the LAC (see fig. 9, and col. 3, lines 13-29, col. 7, lines 26-58); and

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establishing a connection between the next LNS and the LAC using the next LNS address (col. 7, lines 10-15).

Sun is silent regarding: wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing

APA discloses a communications mechanism where a control messages are exchanged between LNS and LAC, wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing (i.e., sending control messages such as Start-Control-Connection-Request (SCCRQ) message which indicate the LAC is available for load balancing to the contact LNS) (see page 4, lines 11-20). Sun discloses initially, when a request is received by the LAC (AC 4), then VPN channel is initiated from the LAC. Thus, one skilled in the art would have readily recognized by initially starting the communication channel LAC using such control messages informs the LNS of its availability for participating in load balancing. Therefore, it would have been obvious to one having ordinary skill in the art at the time of then invention presented with of SUN to utilize the control messages such as (SCCRQ) by the LAC to inform the LNS its availability for participating in load balancing, to ensure the LAC is ready to participate the load balancing, thus minimizing delay related sending request for LAC which is over loaded or taken out of service.

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As per claim 11, Sun discloses the method of claim 10 wherein the contact LNS is included in a virtual LNS (see fig.1, element 22).

As per claim 12, Sun discloses the method of claim 11 including the further step of determining the identity of the contact LNS within the virtual LNS (see col. 6, lines 59-67).

As per claim 13, Sun discloses a system for load balancing, the system comprising:
a Customer Premise Equipment (CPE) (end user device 8)(see fig.1);
an L2TP Access Concentrator (LAC) (AC1), the LAC coupled to the CPE (see fig.1, elements 8 and 4);
a first network (14), the first network coupled to the LAC (AC1 4) (see fig.1);
a second network (14)coupled to the first network (32) (see fig.1);
a contact L2TP network Server (LNS)(18) coupled to the first network (32) (see fig.1);
a next LNS (26) coupled to the second network, the next LNS having an IP address (see fig. 9, and col. 7, lines 26-58); and
wherein the LAC sends a message to the contact LNS via the first network, the message informing the LNS of its availability and the contact LNS sends a response message to the LAC, the response message containing the IP address of the next LNS, the LAC establishing a connection with the next LNS via the second network (see fig. 3 and col. 3, line 46 to col. 4, line 9).

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Sun is silent regarding: wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing.

APA discloses a communications mechanism where a control messages are exchanged between LNS and LAC, wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing (i.e., sending control messages such as Start-Control-Connection-Request (SCCRQ) message which indicate the LAC is available for load balancing to the contact LNS) (see page 4, lines 11-20). Sun discloses initially, when a request is received by the LAC (AC 4), then VPN channel is initiated from the LAC. Thus, one skilled in the art would have readily recognized by initially starting the communication channel LAC using such control messages informs the LNS of its availability for participating in load balancing. Therefore, it would have been obvious to one having ordinary skill in the art at the time of then invention presented with of SUN to utilize the control messages such as (SCCRQ) by the LAC to inform the LNS its availability for participating in load balancing, to ensure the LAC is ready to participate the load balancing, thus minimizing delay related sending request for LAC which is over loaded or taken out of service.

As per claim 14, Sun discloses the system of claim 13 wherein the contact LNS includes a table and the address of the next LNS is stored in the table (see col. 8, lines 50-56).

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As per claim 15, Sun discloses the system of claim 13 wherein the contact LNS is included in a virtual LNS (see fig.1, element 22).

As per claims 16, 17 and 18, Sun discloses a system for load balancing , the system including:

means for obtaining the address of a contact L2TP Network Server (LNS) (see col. 3, lines 20-29);

means for receiving from the contact LNS the address of the next available LNS(see col. 3, lines 20-29 and col. 6, lines 59-67);

means for establishing a connection with the next available LNS (see col. 3, lines 20-29);and

means receiving data and forwarding the data to the next available LNS (see col. 3, lines 38-45).

Sun is silent regarding: sending a message to the contact LNS, a message informing the LNS of the availability of the LAC for participating in load balancing

APA discloses a communications mechanism where a control messages are exchanged between LNS and LAC, wherein the LAC sends a message to the contact LNS, the message informing the LNS of the availability of the LAC for participating in load balancing (i.e., sending control messages such as Start-Control-Connection-Request (SCCRQ) message which indicate the LAC is available for load balancing to the contact LNS) (see page 4, lines 11-20). Sun discloses initially, when a request is received by the LAC (AC 4), then VPN channel is initiated from the LAC. Thus, one

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skilled in the art would have readily recognized by initially starting the communication channel LAC using such control messages informs the LNS of its availability for participating in load balancing. Therefore, it would have been obvious to one having ordinary skill in the art at the time of then invention presented with of SUN to utilize the control messages such as (SCCRQ) by the LAC to inform the LNS its availability for participating in load balancing, to ensure the LAC is ready to participate the load balancing, thus minimizing delay related sending request for LAC which is over loaded or taken out of service.

As per claim 19, APA, discloses the method of claim 6, wherein the message that indicates the LAC is available for participating in load balancing comprises a Start-Control-Connection-Request (SCCRQ) (see page 4, lines 11-20).

As per claim 20, APA discloses the method of claim 7, wherein the ICRQ message comprises an attribute-value pair that indicates the LAC is capable of performing the load balancing (see page 3, lines 18-23).

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salad E Abdullahi whose telephone number is 703-308-8441. The examiner can normally be reached on 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 703-305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you


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have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).


Abdullahi Salad
Examiner AU 2157
4/4/2005